

Sizes 6 to 30
up to 315 bar
up to 330 L/min

Brake Valve
Type B
Series 10

Data Sheet
R-1005
GB



Features

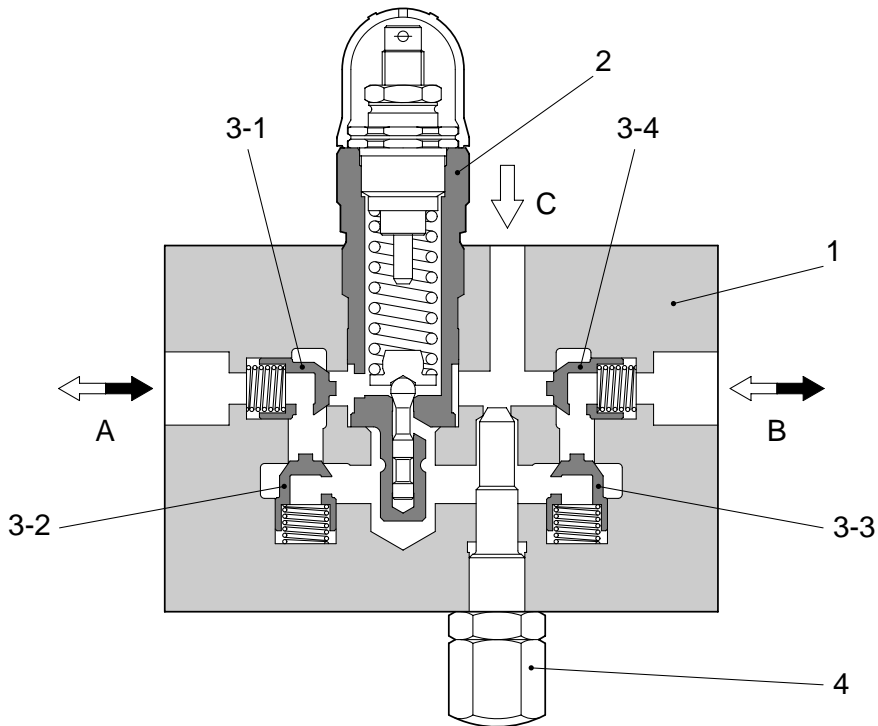
- ◇ Quick response.
- ◇ Minimised internal leakage.
- ◇ Includes chatter resistant mechanism to ensure stable operation.
- ◇ Four types of circuit.

Model
B

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Functional Description

Type B Series 10 Brake Valves primarily comprise::

- Housing (1)
- Direct acting relief valve (2)
- Check valve (3)
- Throttle valve (4)

When the pressure at Port A rises above the value set at relief valve (2), the oil flows from Port A to C and/or B with braking pressure, opening the check valve (3-2) and (3-4)

When the pressure at Port B rises above the value set at relief valve (2), the oil flows from Port B to C and/or A with braking pressure, opening the check valve (3-3) and (3-1).

The throttle valve (4) is used as a by-pass valve between Port A and B.

For details of the relief valve refer to [Data Sheet R-1001](#).



Ordering Code

B **10** **P** **2** **2** — **10** / **100** — **V**

Brake Valve

Size
10, 15, 20, 25, 30

Type of mounting
P: Sub-plate mounting
G: Threaded connection (BSP)

Adjustment Element
1: Rotary knob
2: Thread pin with Hexagon and protective cap
3: Lockable rotary knob (only for sizes 10, 15 and 20) Handwheel size 25, 30

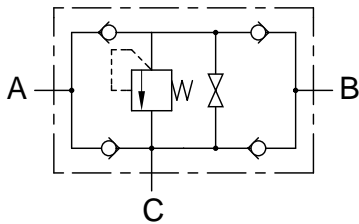
Suitable Oil
No Code: Mineral Oil
V: Phosphate Ester
W: Water Glycol, Fatty Acid Ester

Maximum setting pressure
25: 25 bar
50: 50 bar
100: 100 bar
200: 200 bar
315: 315 bar

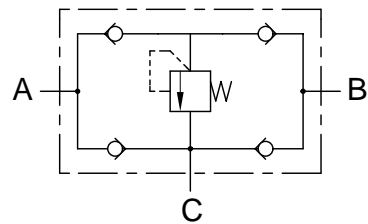
Series Number
10

Type of Circuit
1: Symbol 1
2: Symbol 2
3: Symbol 3
4: Symbol 4

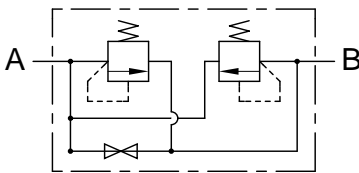
Symbol 1



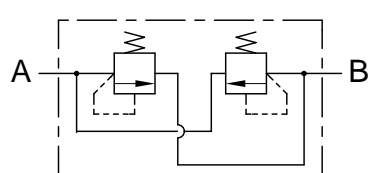
Symbol 2



Symbol 3



Symbol 4



Model B

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Technical Data**Relief Valve**

The Relief valves used in this Brake valve are as follows: (see [Data Sheet R-1001](#))

| Valve Size | Model code of relief valve |
|------------|----------------------------|
| 10 | RD10C-* |
| 15, 20 | RD20C-* |
| 25, 30 | RD30C-* |

For applications outside the following parameters, please consult Kawasaki Precision Machinery (UK) Ltd.

| | |
|----------------------------------|--|
| Maximum Operating Pressure | 315 bar |
| Pressure Fluid | Mineral oil, phosphate ester, fatty acid ester and water glycol. Phosphate ester is only suitable for use with FPM seals. |
| Pressure Fluid Temperature Range | -20°C to +70°C |
| Viscosity Range | 2.8 to 380 cSt |
| Degree of Contamination | Maximum permissible degree of contamination of the fluid is to NAS 1638 class 9. Kawasaki recommend that a filter with a minimum retention rate of $\beta_{10} \geq 75$ is used. |
| Cracking pressure | 0.5 bar |

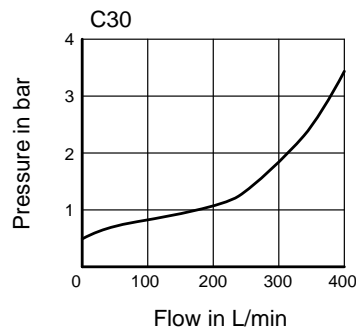
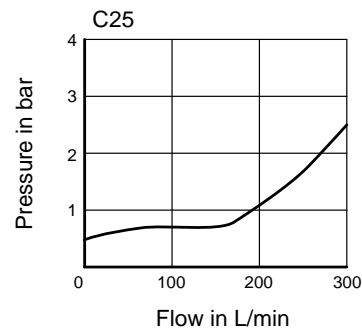
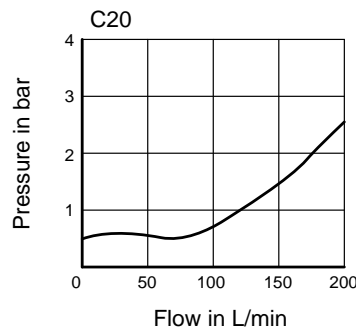
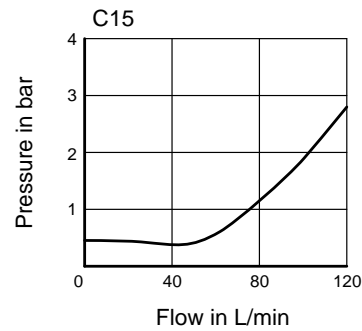
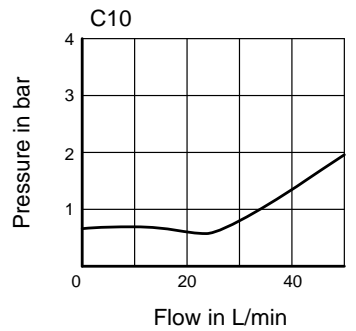
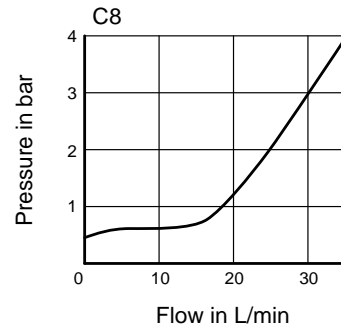
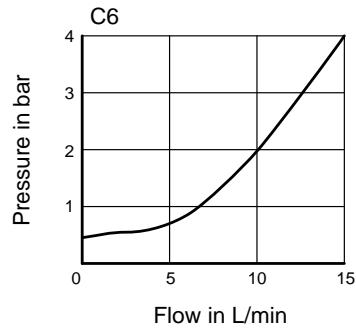
| | Size 10 | Size 15 | Size 20 | Size 25 | Size 30 |
|---------------------------|---------|---------|---------|---------|---------|
| Maximum Flow (L/min) | 110 | 230 | 230 | 330 | 330 |
| B*G*.1 Weight (kg) | 7 | 18 | 20 | 43 | 52 |
| B*G*.2 Weight (kg) | 7 | 15 | 19 | 42 | 50 |
| B*G*.3 Weight (kg) | 7.5 | 16.5 | 16.5 | 31.5 | 31.5 |
| B*G*.4 Weight (kg) | 5.5 | 11 | 11 | 21 | 21 |
| B*P*.1 Weight (kg) | 7 | - | 15 | - | 42 |
| B*P*.2 Weight (kg) | 5 | - | 15 | - | 42 |
| B*P*.3 Weight (kg) | 7.5 | - | 15.5 | - | 31 |
| B*P*.4 Weight (kg) | 5.5 | - | 11 | - | 21 |

Note: Maximum flow depends on the setting pressure. See Data Sheet [R-1001 Characteristic Curves](#) (page 5.10)



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Characteristic Curves for Check valve C1001
 Measured at $v = 36cSt$ and $t = 50^{\circ}C$

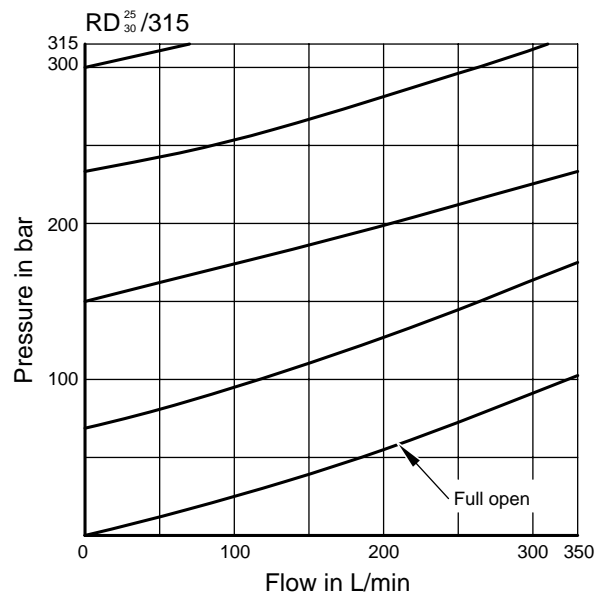
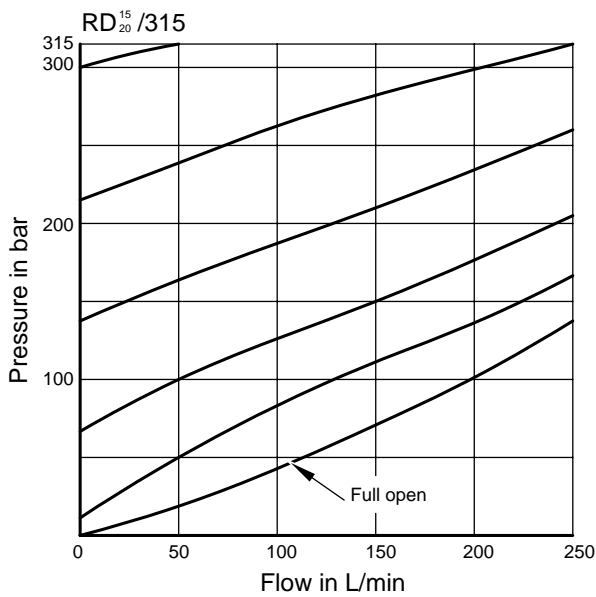
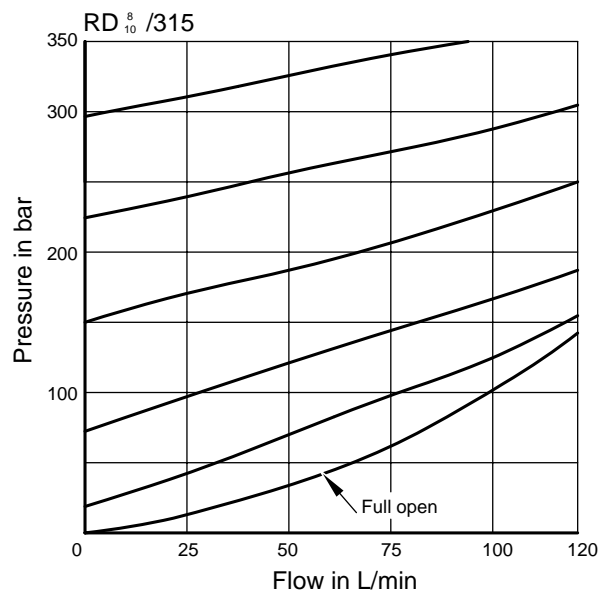
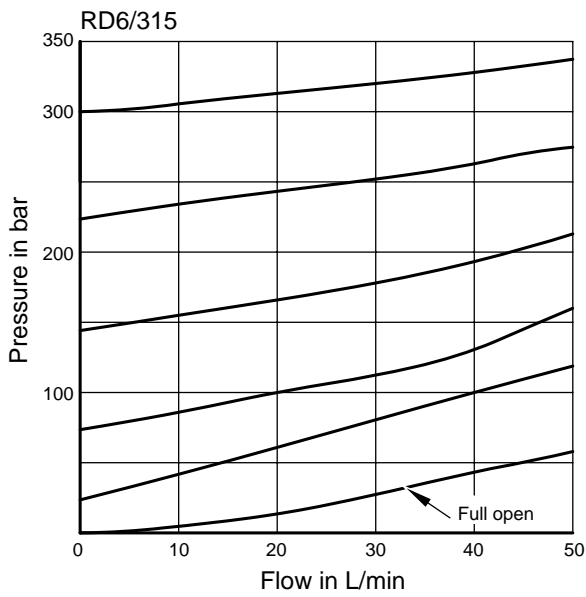


Note: For full details see Check Valve data sheet C1001



Characteristic Curves for Relief Valve R1001

Measured at $v = 36cSt$ and $t = 50^{\circ}C$



Note: For full details see Relief Valve data sheet R1001



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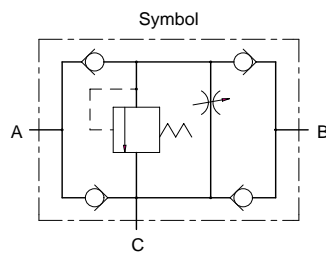
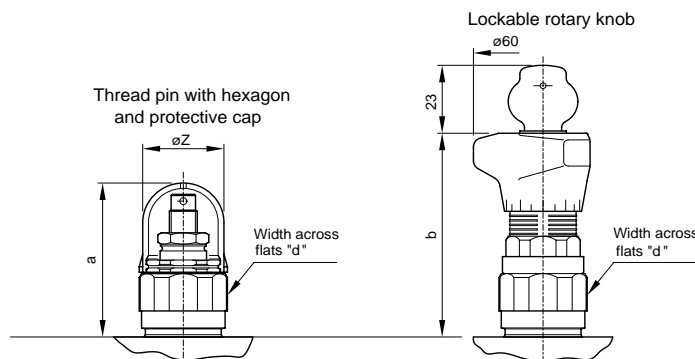
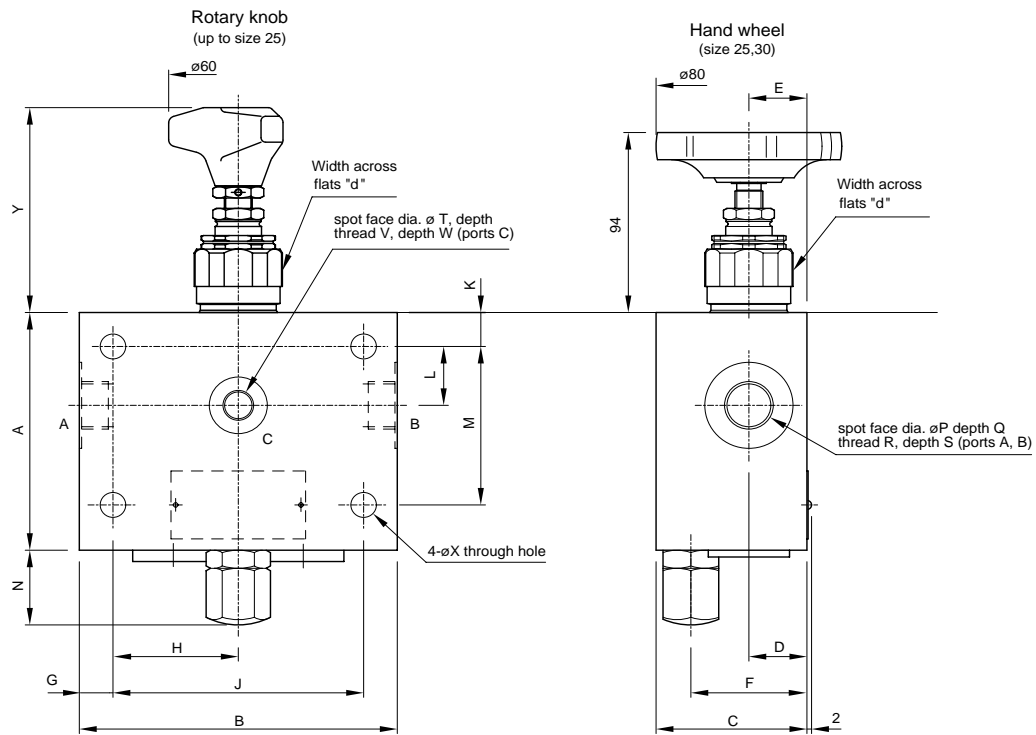
Model
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B*G *.1 Unit Dimensions (dimensions in mm)



B*G *.1 Unit Dimensions (dimensions in mm) (Continued)

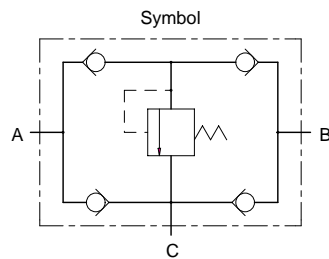
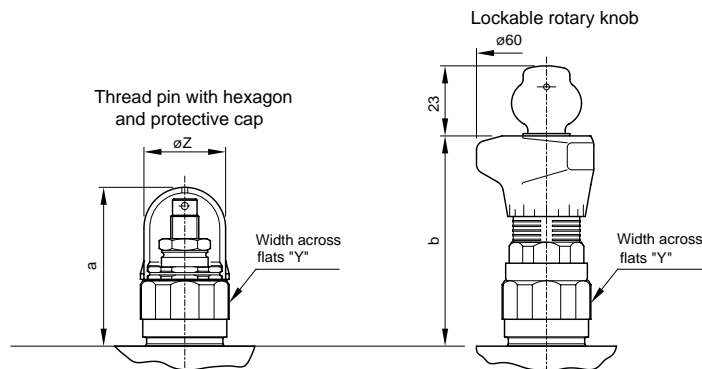
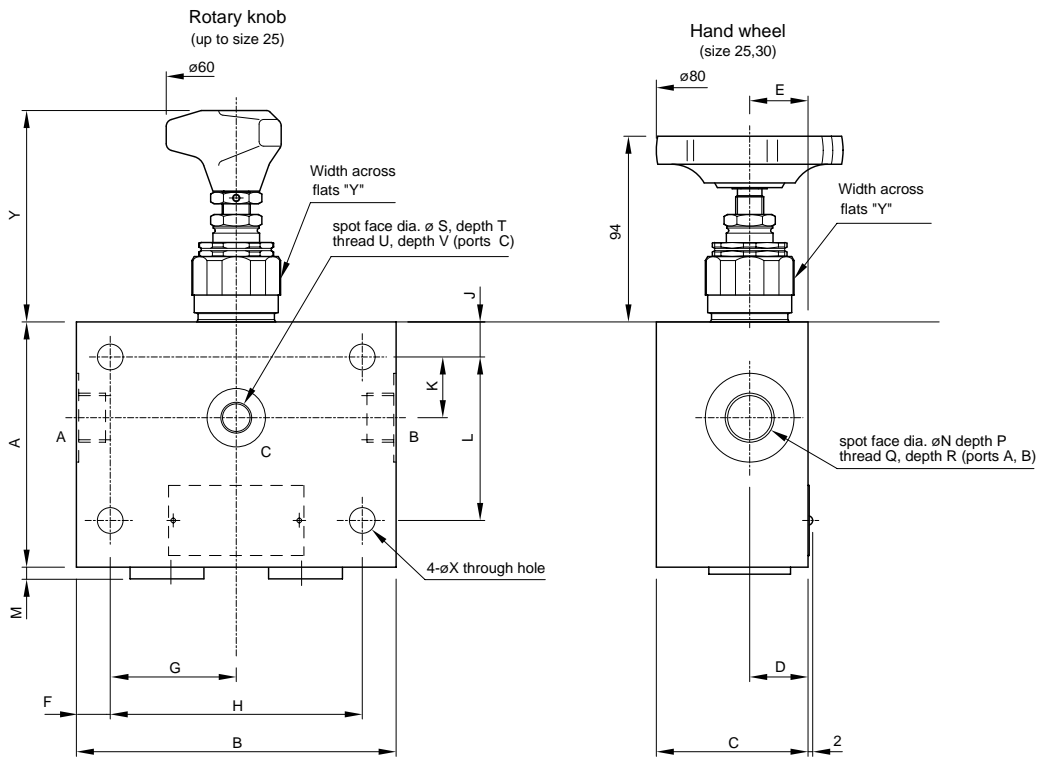
| | A | B | C | D | E | F | G | H | J | K | L | M | N |
|----------------|-----|-----|-----|----|----|----|------|-------|-----|----|----|-----|----|
| Size 10 | 105 | 137 | 65 | 25 | 25 | 50 | 14.5 | 54 | 108 | 15 | 26 | 70 | 33 |
| Size 15 | 130 | 185 | 100 | 42 | 62 | 20 | 14 | 78.5 | 157 | 14 | 40 | 102 | 33 |
| Size 20 | 133 | 188 | 110 | 45 | 70 | 20 | 24 | 70 | 140 | 14 | 40 | 105 | 37 |
| Size 25 | 185 | 250 | 125 | 40 | 73 | 35 | 20 | 105 | 210 | 20 | 42 | 145 | 33 |
| Size 30 | 180 | 285 | 135 | 42 | 86 | 42 | 20 | 122.5 | 245 | 20 | 43 | 140 | 33 |

| | P | Q | R | S | T | U | V | W | X | Y | Z | a | b | d |
|----------------|----|---|--------------------------------|------|----|---|-------------------------------|----|----|----|----|----|----|----|
| Size 10 | 38 | 1 | G ¹ / ₂ | 12.5 | 25 | 1 | G ¹ / ₄ | 16 | 11 | 91 | 34 | 68 | 94 | 36 |
| Size 15 | 45 | 1 | G ³ / ₄ | 21 | 32 | 1 | G ³ / ₈ | 14 | 11 | 88 | 40 | 65 | 91 | 46 |
| Size 20 | 52 | 1 | G1 | 19 | 38 | 1 | G ¹ / ₂ | 19 | 11 | 88 | 40 | 65 | 91 | 46 |
| Size 25 | 63 | 1 | G1 ¹ / ₄ | 28 | 52 | 1 | G1 | 24 | 14 | - | 50 | 83 | - | 60 |
| Size 30 | 65 | 1 | G1 ¹ / ₂ | 26 | 52 | 1 | G1 | 20 | 14 | - | 50 | 83 | - | 60 |



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B*G *.2 Unit Dimensions (dimensions in mm)



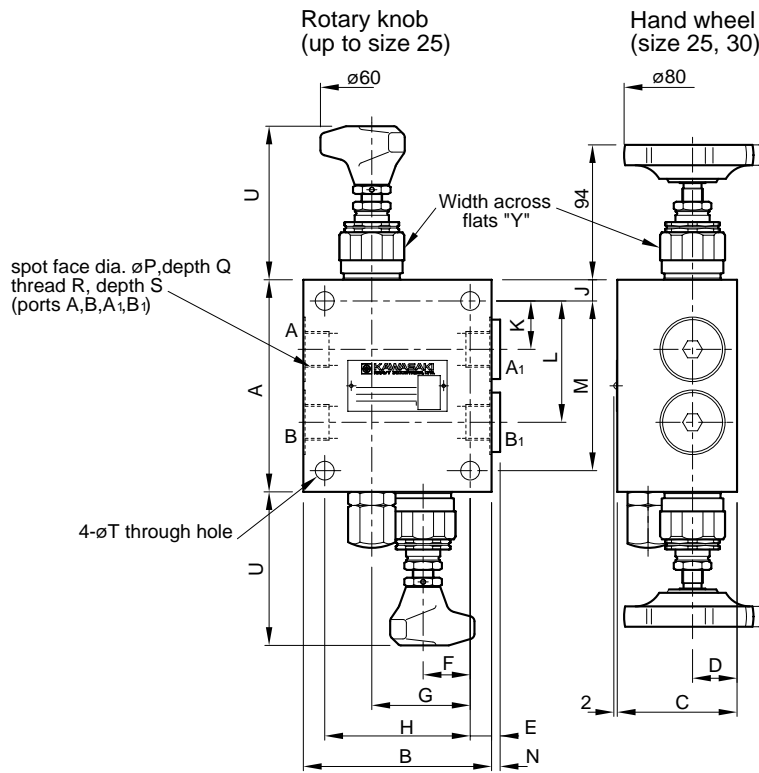
B*G *.2 Unit Dimensions (dimensions in mm) (continued)

| | A | B | C | D | E | F | G | H | J | K | L | M | N |
|----------------|-----|-----|-----|----|----|----|-------|-----|----|----|-----|-----|----|
| Size 10 | 105 | 150 | 60 | 25 | 28 | 15 | 60 | 120 | 15 | 26 | 75 | 0 | 38 |
| Size 15 | 130 | 185 | 85 | 27 | 47 | 14 | 78.5 | 157 | 14 | 40 | 102 | 2 | 45 |
| Size 20 | 133 | 188 | 100 | 35 | 60 | 24 | 70 | 140 | 14 | 40 | 105 | 8 | 52 |
| Size 25 | 185 | 250 | 125 | 40 | 73 | 20 | 105 | 210 | 20 | 42 | 145 | 1.5 | 63 |
| Size 30 | 180 | 285 | 135 | 42 | 86 | 20 | 122.5 | 245 | 20 | 43 | 140 | 4 | 65 |

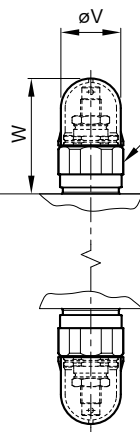
| | P | Q | R | S | T | U | V | W | X | Y | Z | a | b |
|----------------|---|--------------------------------|----|----|---|-------------------------------|----|----|----|----|----|----|----|
| Size 10 | 1 | G ¹ / ₂ | 15 | 25 | 1 | G ¹ / ₄ | 15 | 9 | 91 | 36 | 34 | 68 | 94 |
| Size 15 | 1 | G ³ / ₄ | 21 | 32 | 1 | G ³ / ₈ | 14 | 11 | 88 | 46 | 40 | 65 | 91 |
| Size 20 | 1 | G1 | 19 | 38 | 1 | G ¹ / ₂ | 19 | 11 | 88 | 46 | 40 | 65 | 91 |
| Size 25 | 1 | G1 ¹ / ₄ | 28 | 52 | 1 | G1 | 24 | 14 | - | 60 | 50 | - | - |
| Size 30 | 1 | G1 ¹ / ₂ | 26 | 52 | 1 | G1 | 20 | 14 | - | 60 | 50 | - | - |



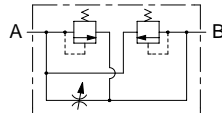
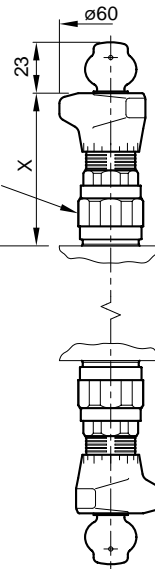
B*G *.3 Unit Dimensions (dimensions in mm)



Thread pin with hexagon and protective cap



Lockable rotary knob



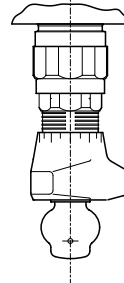
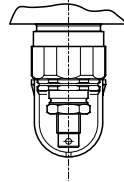
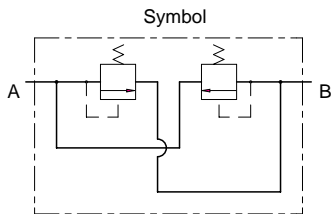
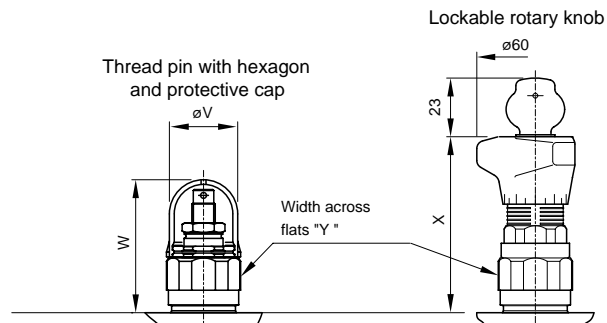
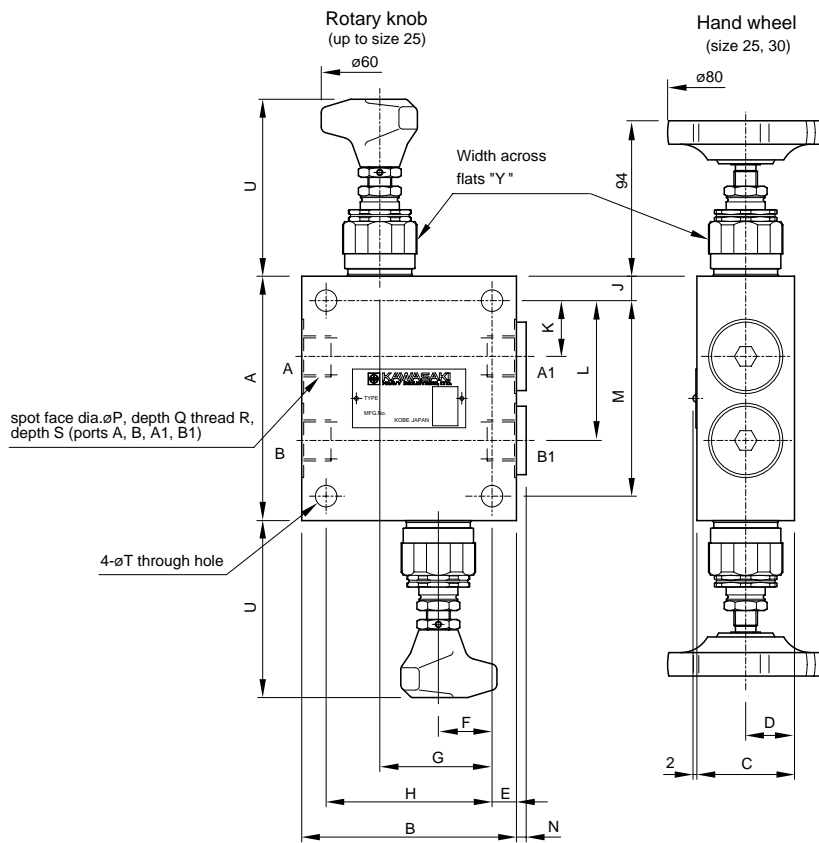
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B*G *.3 Unit Dimensions (dimensions in mm) (continued)

| | A | B | C | D | E | F | G | H | J | K | L | M | N |
|----------------|-----|-----|-----|------|------|------|-------|-----|------|------|------|-----|---|
| Size 10 | 125 | 110 | 70 | 26 | 12.5 | 27.5 | 57.5 | 85 | 12.5 | 28.5 | 71.5 | 100 | 5 |
| Size 15 | 170 | 145 | 85 | 30 | 12 | 42 | 79 | 121 | 20 | 34 | 96 | 130 | 5 |
| Size 20 | 170 | 145 | 85 | 30 | 12 | 42 | 79 | 121 | 20 | 34 | 96 | 130 | 8 |
| Size 25 | 196 | 185 | 110 | 37.5 | 17.5 | 48.5 | 101.5 | 150 | 20 | 40 | 116 | 156 | 6 |
| Size 30 | 196 | 185 | 110 | 37.5 | 17.5 | 48.5 | 101.5 | 150 | 20 | 40 | 116 | 156 | 6 |

| | P | Q | R | S | T | U | V | W | X | Y |
|----------------|----|---|--------------------------------|----|----|----|----|----|----|----|
| Size 10 | 38 | 1 | G ¹ / ₂ | 15 | 9 | 91 | 34 | 68 | 94 | 36 |
| Size 15 | 45 | 1 | G ³ / ₄ | 21 | 14 | 88 | 40 | 65 | 91 | 46 |
| Size 20 | 52 | 1 | G1 | 21 | 14 | 88 | 40 | 65 | 91 | 46 |
| Size 25 | - | - | G1 ¹ / ₄ | 25 | 14 | - | 50 | 83 | - | 60 |
| Size 30 | - | - | G1 ¹ / ₂ | 25 | 14 | - | 50 | 83 | - | 60 |

B*G *.4 Unit Dimensions (dimensions in mm)



B*G *.4 Unit Dimensions (dimensions in mm) (continued)

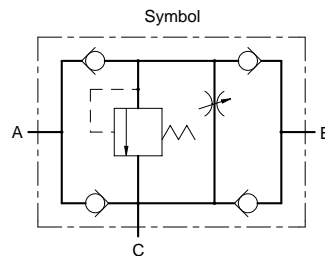
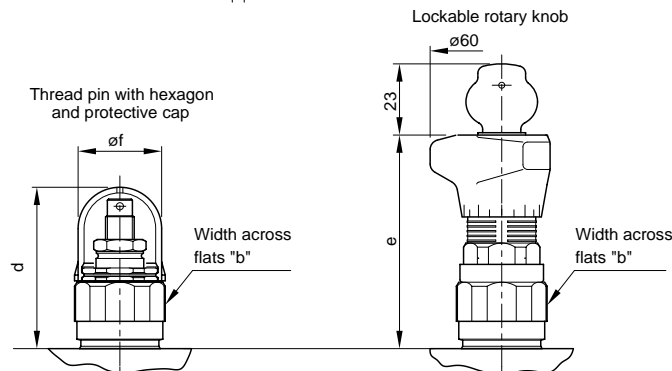
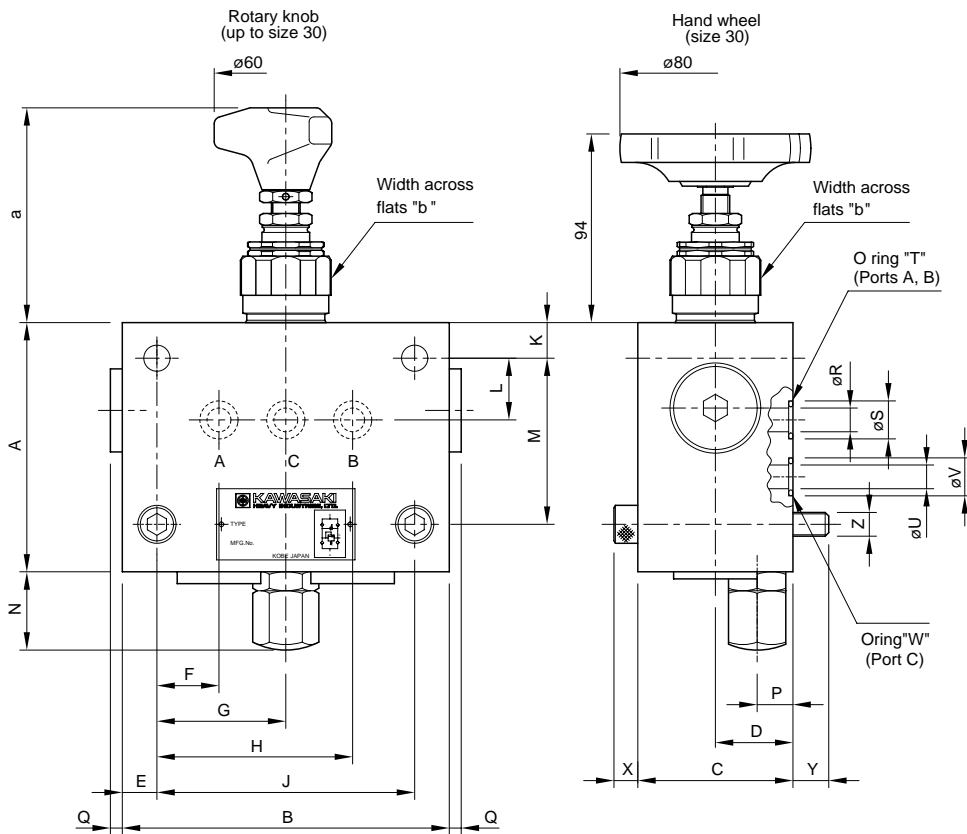
| | A | B | C | D | E | F | G | H | J | K | L | M | N |
|----------------|-----|-----|----|------|------|------|-------|-----|------|------|------|-----|---|
| Size 10 | 125 | 116 | 50 | 25 | 12.5 | 30.5 | 60.5 | 91 | 12.5 | 28.5 | 71.5 | 100 | 5 |
| Size 15 | 170 | 145 | 60 | 30 | 12 | 42 | 79 | 121 | 20 | 34 | 96 | 130 | 5 |
| Size 20 | 170 | 145 | 60 | 30 | 12 | 42 | 79 | 121 | 20 | 34 | 96 | 130 | 8 |
| Size 25 | 196 | 185 | 75 | 37.5 | 17.5 | 48.5 | 101.5 | 150 | 20 | 40 | 116 | 156 | 6 |
| Size 30 | 196 | 185 | 75 | 37.5 | 17.5 | 48.5 | 101.5 | 150 | 20 | 40 | 116 | 156 | 6 |

| | P | Q | R | S | T | U | V | W | X | Y |
|----------------|----|---|--------------------------------|----|----|----|----|----|----|----|
| Size 10 | 38 | 1 | G ¹ / ₂ | 17 | 9 | 91 | 34 | 68 | 94 | 36 |
| Size 15 | 45 | 1 | G ³ / ₄ | 21 | 14 | 88 | 40 | 65 | 91 | 46 |
| Size 20 | 52 | 1 | G1 | 21 | 14 | 88 | 40 | 65 | 91 | 46 |
| Size 25 | - | - | G1 ¹ / ₄ | 25 | 14 | - | 50 | 83 | - | 60 |
| Size 30 | - | - | G1 ¹ / ₂ | 25 | 14 | - | 50 | 83 | - | 60 |



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B*P*.1 Unit Dimensions (dimensions in mm)

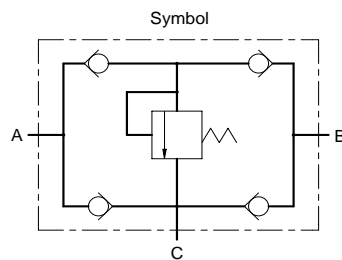
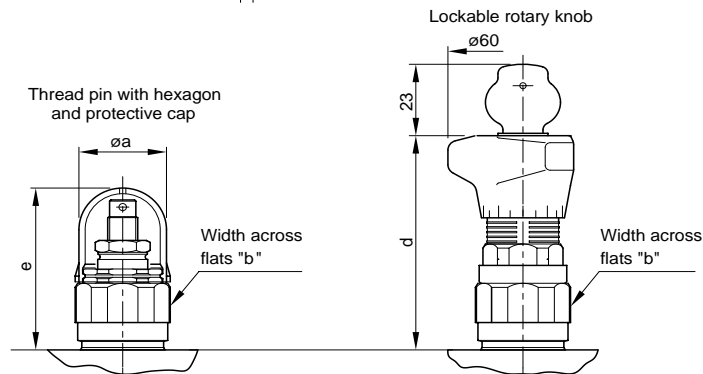
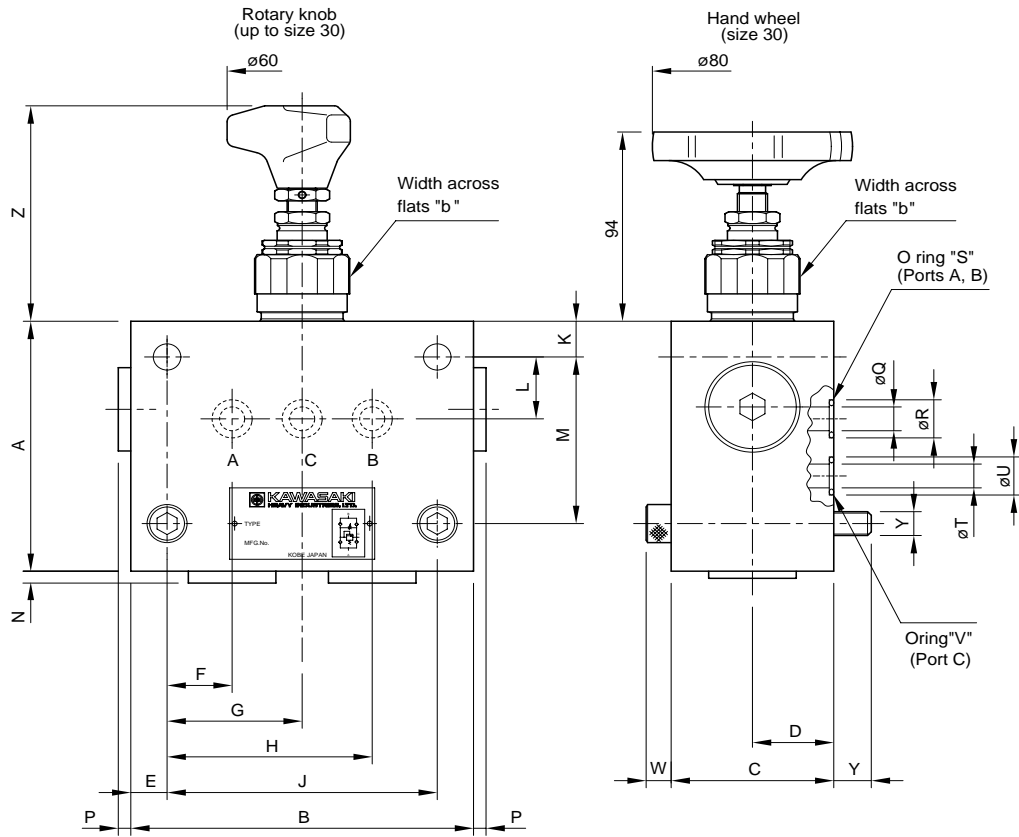


B*P*.1 Unit Dimensions (dimensions in mm) (continued)

| | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | "T" |
|----------------|-----|-----|-----|----|------|----|-----|-----|-----|----|----|-----|----|----|-----|----|----|-----------------------|
| Size 10 | 105 | 137 | 65 | 40 | 14.5 | 26 | 54 | 82 | 108 | 15 | 26 | 70 | 33 | 15 | 0 | 10 | 16 | 2-JISB2401P12 Hs90 |
| Size 20 | 133 | 168 | 90 | 60 | 14 | 35 | 70 | 105 | 140 | 14 | 40 | 105 | 33 | 20 | 3.5 | 20 | 26 | 2-JISB2401P22 Hs90 |
| Size 30 | 185 | 250 | 125 | 75 | 20 | 55 | 105 | 155 | 210 | 20 | 50 | 145 | 33 | 35 | 5 | 30 | 40 | 2-JISB2401G35 Hs90 |

| | U | V | "W" | X | Y | Z | a | b | d | e | f |
|----------------|----|----|-----------------|----|----|-------|----|----|----|----|----|
| Size 10 | 10 | 16 | JISB2401P12Hs90 | 10 | 15 | 4-M10 | 91 | 36 | 68 | 94 | 34 |
| Size 20 | 20 | 26 | JISB2401P22Hs90 | 16 | 25 | 4-M16 | 88 | 46 | 65 | 91 | 40 |
| Size 30 | 18 | 26 | JISB2401P22Hs90 | 20 | 30 | 4-M20 | - | 60 | 83 | - | 50 |

B*P*.2 Unit Dimensions (dimensions in mm)

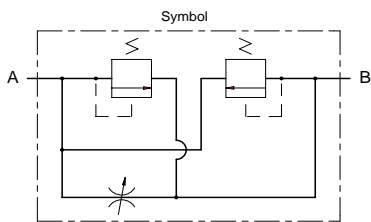
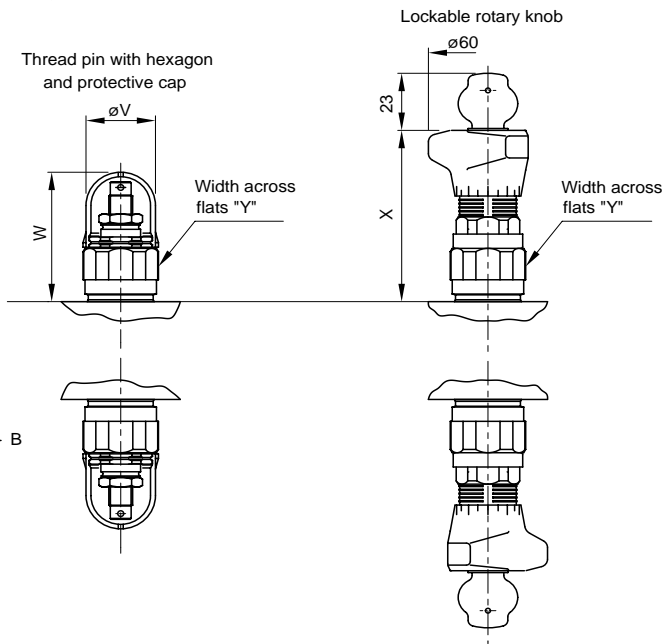
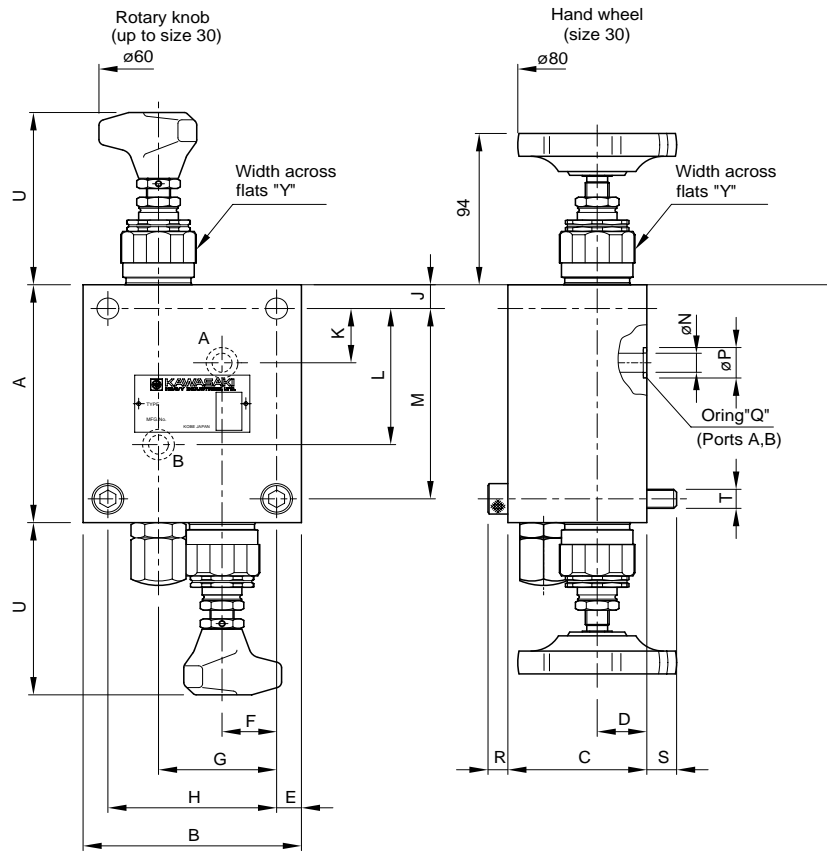


B*P*.2 Unit Dimensions (dimensions in mm) (continued)

| | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | "S" |
|----------------|-----|-----|-----|----|------|----|-----|-----|-----|----|----|-----|---|-----|----|----|-----------------------|
| Size 10 | 105 | 137 | 50 | 25 | 14.5 | 26 | 54 | 82 | 108 | 15 | 26 | 70 | 0 | 0 | 10 | 16 | 2-JISB2401P12 Hs90 |
| Size 20 | 133 | 168 | 90 | 60 | 14 | 35 | 70 | 105 | 140 | 14 | 40 | 105 | 8 | 3.5 | 20 | 26 | 2-JISB2401P22 Hs90 |
| Size 30 | 185 | 250 | 125 | 75 | 20 | 55 | 105 | 155 | 210 | 20 | 50 | 145 | 5 | 5 | 30 | 40 | 2-JISB2401G35 Hs90 |

| | T | U | "V" | W | X | Y | Z | a | b | d | e |
|----------------|----|----|-----------------|----|----|-------|----|----|----|----|----|
| Size 10 | 10 | 16 | JISB2401P12Hs90 | 10 | 15 | 4-M10 | 91 | 34 | 68 | 94 | 36 |
| Size 20 | 20 | 26 | JISB2401P22Hs90 | 16 | 25 | 4-M16 | 88 | 40 | 65 | 91 | 46 |
| Size 30 | 18 | 26 | JISB2401P22Hs90 | 20 | 30 | 4-M20 | - | 50 | 83 | - | 60 |

B*P*.3 Unit Dimensions (dimensions in mm)



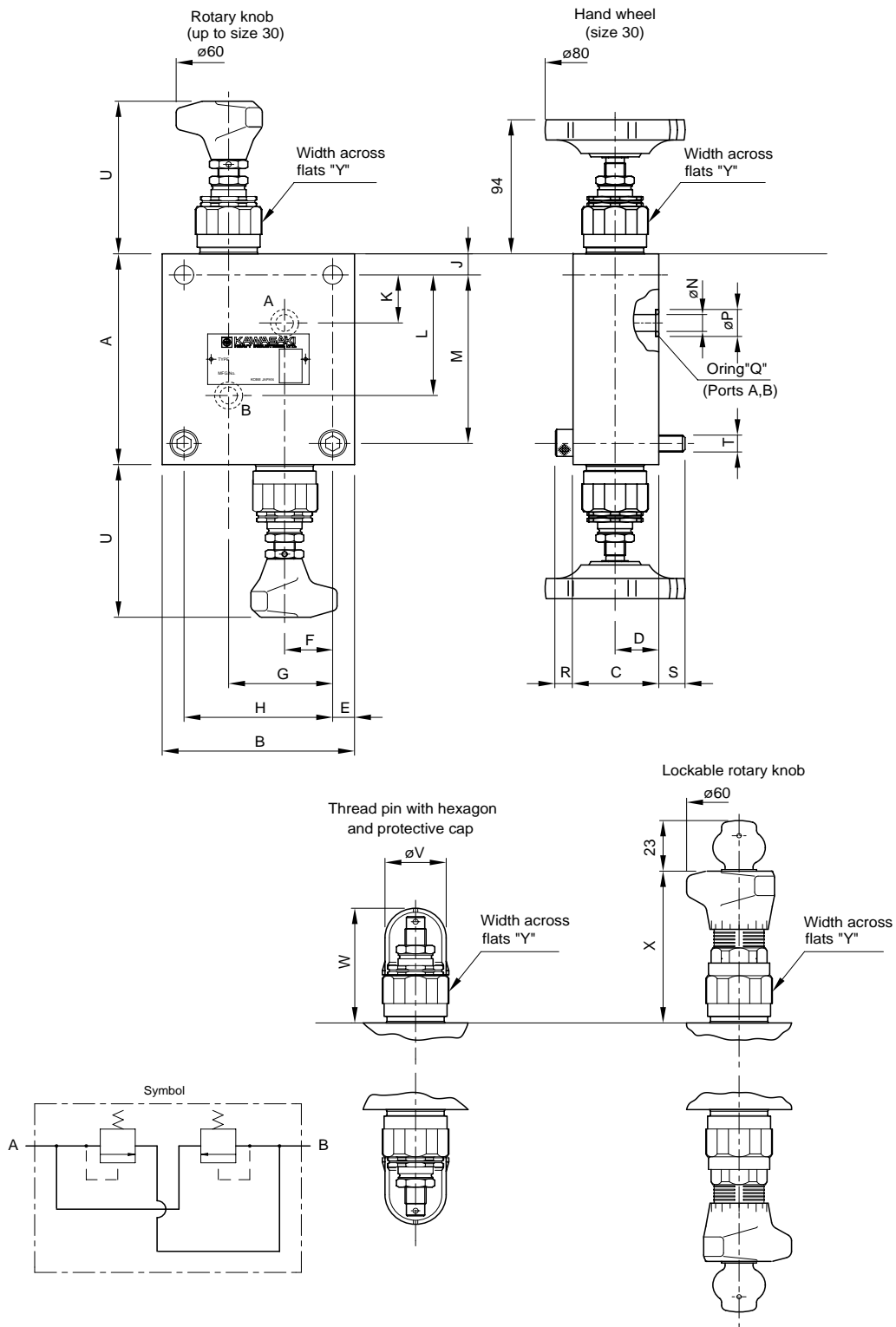
B*P*.3 Unit Dimensions (dimensions in mm) (continued)

| | A | B | C | D | E | F | G | H | J | K | L | M | N | P | "Q" |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------------|
| Size 10 | 125 | 110 | 70 | 25 | 12.5 | 27.5 | 57.5 | 85 | 12.5 | 28.5 | 71.5 | 100 | 10 | 16 | 2-JISB2401P12 Hs90 |
| Size 20 | 170 | 145 | 85 | 30 | 12 | 42 | 79 | 121 | 20 | 34 | 96 | 130 | 20 | 26 | 2-JISB2401P22 Hs90 |
| Size 30 | 195 | 185 | 110 | 37.5 | 17.5 | 47.5 | 102.5 | 150 | 20 | 40 | 115 | 155 | 30 | 40 | 2-JISB2401G35 Hs90 |

| | R | S | T | U | V | W | X | Y |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|
| Size 10 | 8 | 15 | 4-M8 | 91 | 34 | 68 | 94 | 36 |
| Size 20 | 12 | 20 | 4-M12 | 88 | 40 | 65 | 91 | 46 |
| Size 30 | 16 | 25 | 4-M16 | - | 50 | 83 | - | 60 |



B*P*.4 Unit Dimensions (dimensions in mm)



B*P*.4 Unit Dimensions (dimensions in mm) (continued)

| | A | B | C | D | E | F | G | H | J | K | L | M | N | P | "Q" |
|----------------|-----|-----|----|------|------|------|-------|-----|------|------|------|-----|----|----|------------------|
| Size 10 | 125 | 110 | 50 | 25 | 12.5 | 27.5 | 57.5 | 85 | 12.5 | 28.5 | 71.5 | 100 | 10 | 16 | 2-JSB2401P12Hs90 |
| Size 20 | 170 | 145 | 60 | 30 | 12 | 42 | 79 | 121 | 20 | 34 | 96 | 130 | 20 | 26 | 2-JSB2401P22Hs90 |
| Size 30 | 195 | 185 | 75 | 37.5 | 17.5 | 47.5 | 102.5 | 150 | 20 | 40 | 115 | 155 | 30 | 40 | 2-JSB2401G35Hs90 |

| | R | S | T | U | V | W | X | Y |
|----------------|----|----|-------|----|----|----|----|----|
| Size 10 | 8 | 15 | 4-M8 | 91 | 34 | 68 | 94 | 36 |
| Size 20 | 12 | 20 | 4-M12 | 88 | 40 | 65 | 91 | 46 |
| Size 30 | 16 | 25 | 4-M16 | - | 50 | 83 | - | 60 |

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